

# SMALL MOLECULES MODULATING ACTIVITY OF MICRO RNA OLIGONULEOTIDES AND MICRO RNA TARGETS AND USES THEREOF

## Abstract

The present invention describes a novel approach whereby small molecules may be used to modulate activity of microRNA and GAM oligonucleotides. This mode of therapy allows inter alia up regulation of a disease-related target gene of novel GAM oligonucleotides of the present invention, by countering the activity of a GAM oligonucleotides which naturally inhibits expression of that target gene. Nucleic acid molecules are provided respectively encoding 122,764 GAM oligonucleotides and their respective precursors, and 18602 GR polynucleotides, as are vectors and probes both comprising the nucleic acid molecules, and methods and systems for detecting GAM oligonucleotides and GR polynucleotides and specific functions and utilities thereof, for detecting expression of GAM oligonucleotides and GR polynucleotides, and for selectively enhancing and selectively inhibiting translation of

the respective target genes thereof.